



EXAMPLES OF CBNRM BEST-PRACTICES IN MALAWI

**DRAFT
INTERNAL REPORT 7
JULY 2000**



Community
Partnerships for
Sustainable
Resource
Management in
Malawi

Examples of CBNRM Best-Practices in Malawi

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USAID Contract: 690-C-00-99-00116-00
Activity: 612-0248

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ACRONYMS

ADD	Agricultural Development Division
ADMARC	Agricultural Development and Marketing Corporation
BVC	Beach Village Committee
CABUNGO	Capacity Building Unit for Non-Governmental Organizations
CBNRM	Community-based Natural Resource Management
CBO	Community-based Organization
COMPASS	Community Partnerships for Sustainable Resource Management
CONGOMA	Council of Non-Governmental Organizations in Malawi
CSC	Christian Services Committee
EPA	Extension Planning Area
GIS	Geographic Information System
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
GVH	Group Village Headman
ICCE	International Centre for Conservation Education
LOMADEF	Lipangwe Organic Manure Demonstration Farm
MAGFAD	Malawi/German Fisheries and Aquaculture Development Project
MAVOTI	Mabulabo Voluntary Transformation Initiatives
NGO	Non-Governmental Organization
NRM	Natural Resources Management
NTFP	Non-Timber Forest Products
OD	Organizational Development
RDP	Rural Development Project
SADC	Southern African Development Community
SHOGA	Shire Highlands Organic Growers' Association
TA	Traditional Authority
USAID	United States Agency for International Development
VFA	Village Forest Area
VFAC	Village Forest Area Committee
VNRC	Village Natural Resource Committee
WOOF	Willing Workers of Organic Farming
WSM	Wildlife Society of Malawi
ZEC	Zambezi Evangelical Church

EXAMPLES OF SOME COMMUNITY BASED NATURAL RESOURCE MANAGEMENT BEST PRACTICES IN MALAWI

BACKGROUND

Community Partnerships for Sustainable Resource Management (COMPASS) is a USAID funded project implemented by Development Alternative Inc. in association with Development Management Associates. COMPASS is addressing USAID Malawi's Strategic Objective of increasing sustainable use, conservation and management of renewable natural resources. One of the Targeted Results of COMPASS is improving Community Mobilization Skills within the public and NGO sector related to community-based natural resource management (CBNRM).

CBNRM BEST PRACTICES

As a way of enhancing community mobilization skills, COMPASS has been identifying educational models of Community-Based Natural Resource Management (CBNRM) to draw some experiences that can be adapted under various situations in Malawi. The models are not blue prints or panaceas for solving all environmental problems, but, rather, they are examples of relevant success stories in CBNRM. These model sites will also serve as examples that others can learn from through exchange visits. It is common knowledge that people appreciate and believe more strongly in something that they have seen working elsewhere under similar conditions. COMPASS will therefore try to link up partners to these best practice sites for knowledge generation and sharing.

This publication covers thirteen examples of CBNRM best practices. These practices mainly include integrated Natural Resources Management (NRM), communal afforestation and sustainable agricultural practices. There are also some cases where Community Based Organizations (CBOs) have gradually evolved to become local NGOs. COMPASS will keep up with the developments at these model sites to monitor changes and record new lessons that can be shared with partners.

KAM'MWAMBA COMMUNITY INTEGRATED NATURAL RESOURCES MANAGEMENT & USE

Background

When children are hungry, the mothers know earlier than the father, who is often away engaged in off-farm employment. Such are the concerns for the children that women in Mwanza East came up with the motto: **“A fruit tree planted for every child every year”**, as a basis for their commitment to planting especially indigenous fruit trees. These are women belonging to some five villages that are generating income from Non-Timber Forestry Products (NTFP) through Malambe (*Adansonia digitata*) and Bwemba (*Tamarindus indica*) fruit-juice extraction, along side replanting these and related species.

The community is made up of Kam'mwamba, George, Gobede, Manyenje, and Chikwekwe villages, in TA Simon Likongwe located some 60km north east of Mwanza Boma along the Blantyre - Lilongwe main road. This community activity was sparked in 1996 by the Sustainable Management of Indigenous Forest project, implemented by The Wildlife Society of Malawi (WSM), funded by the Germany Agency for Technical Corporation (GTZ).

Handing Over the Stick

The project is operating in a total area of about 3000 hectares of indigenous forest. That area has of late suffered heavy deforestation from both commercial exploitation and local people striving to improve their living standards with the opportunity brought by the newly opened Zalewa road. Hence the project was to respond to the problem of deforestation through harvesting and marketing of non-timber forest products jointly with the local community, thereby curtailing the illegal timber and fuelwood trade. In the process, it would empower communities to manage natural resources sustainably and integrate women and marginalised groups in natural woodland management.

Rural people want to improve their living conditions and improve them immediately. Knowing that the locals are custodians of the forests and, therefore, being major stakeholders in utilizing the forest resource, participation of the locals had to be internalized in the project approach. Sensitization of the community had to be done through meetings, drama, and folk songs performed by both local and professional groups. Each of the five villages has a Village Natural Resources Management Committee (VNRC) to co-ordinate natural resources activities. The committees' capacity is strengthened by improved skills training in leadership, and joint formulation of community by-laws for each village. Two members from each of these villages form the area's Local Steering Committee that co-ordinates the communities' interests and the project's goals.

Each of these villages is involved in activities such as bee-keeping (22 clubs, with seventy bee hives), tree nursery establishment and management, bamboo furniture making targeting export markets, briquettes made from mixing waste paper with crop refuse or litter from trees for domestic cooking as alternatives to the dwindling firewood supply, indigenous fruit processing and guinea-fowl rearing.

While briquettes provide women with ready domestic energy thereby saving them time for other jobs, the other activities provide families with food, and income generating opportunities. Domesticated guinea fowl are being reared for both income and food, so too with bees, while Bwemba and Malambe fruits are processed into juice for sale.

For each of these activities, WSM project staff helped the communities with start up funds by way of breeding stock, hives, seedling pots and technical advice, using village-based workers, who are also from the same communities.

Environmental Sustainability

While the monetary and nutritional benefits of the forest-based products for Kam'mwamba communities attracted more immediate attention of the local people and their participation, each of the activities has an environmental advantage. Now community members can get money without destroying the trees (without selling charcoal and firewood as was the case earlier). The community's attitude towards natural resources has greatly improved.

Guinea fowl, being easy to raise and selling for more money, are deflecting attention from cutting trees for charcoal selling. Since bee keeping requires a vegetative environment, communities are therefore controlling bush fires thereby allowing coppices, young plants and animals to survive. More people are also motivated to plant their own trees. In the same vein, Bwemba and Malambe juice have become good sources of food and money. Nature in Kam'mwamba has become a reliable resource to be managed, and no more to be wantonly plundered.

Local Impact

The area has about 4000 people, of who about 3000 are involved in one way or another in the various community-organized natural resources management activities. Most of the beneficiaries are women and children (about 75%). Communities are now setting aside discrete areas as communal woodlots known as Village Forestry Areas (VFAs), and no longer look to the government to create Forest Reserves. The tangible benefits from these forests are creating a knock-on effect in terms of environmental awareness, along side raising living standards.

The increasing interest in the raising, planting as well as selling tree seedlings is creating hope for the future environment, while communal forest by-laws help to protect the communities from individuals with greedy interests.

Besides earning the locals money, project-backed activities such as fruit-juice making from wild resources are restoring the people's faith in the nutritional value of indigenous food sources. It is expected that as local consumption of the products increases, both produced at the project site, and in households, a definite contribution to people's health will occur. Malambe and Bwemba juices are rich in Vitamin C, calcium, iron, and phosphorus and other nutrients essential for human health.

The Local Steering Committee initially saves 40% of the revenue in its account for village development activities. The next 40% are banked to sustain production processes while the remaining 20% is paid to communities who process the juice. All communities are benefiting from the project side of their activities through the 40% of the proceeds that are used for village development activities such as giving out loans to communities to start small businesses and maintenance of boreholes and other essential infrastructure. So far, depending on juice extraction for the month, individuals could share up to MK1600 (~ 35US\$) a month. The formation of the Local Steering Committee, and the Village Natural Resources Management committees, run by the communities themselves, have created basic structures that, it is hoped,

will sustain the natural resources management activities even after the WSM project has pulled out.

Accessibility

The meeting point for this community is Kam`mwamba, next to the juice production site. Located some 60 km north-east of Mwanza Boma, along the Blantyre-Lilongwe main road, Kam`mwamba is accessible all year round. However, in the rainy season the people are busy with their garden activities, and may not easily gather. All prospective visitors need to enquire through the Wildlife Society of Malawi Headquarters, P.O. Box 1429, Blantyre. From here all arrangements can be made relating to guests' numbers and availability of a guide, since the site has no independent office and has no phone. Meal arrangements have to be made in advance, while accommodation can be organized in Blantyre for visitors.

RURAL AFFORESTATION PROGRAMME AT MAKALANI VILLAGE IN DOWA DISTRICT

The problem of deforestation is rampant in most places in Malawi. This is worsened by the rapid increase in human population that puts pressure on the meagre forest resources. The people of Makalani village in Dowa district were not spared by this problem. Being a tobacco growing area, large tracts of marginal land were deforested to supply wood for curing tobacco. The people of Makalani experienced adverse effects from the rapid loss of trees at Katundu hill that borders the village. Villagers started mumbling among themselves about the other detrimental effects the situation was bringing such as soil erosion due to excess water run-off, loss of biodiversity, lack of building materials and other related problems. People started discussing the problem at different gatherings but did not have an affirmative push to start addressing the problem. Their call was heard during a brief after-prayer talk by the Christian Service Committee Development Worker at one of the church meetings on development activities that CSC is able to facilitate. After the presentation, the Group Village Headman Makalani himself approached the CSC Development Worker with the problem of deforestation facing his village.

Christian Service Committee's development approach is to build local institutional capacities to foster development initiatives in the areas. The process involves identifying volunteers from places of worship who are then trained in participatory methodologies so that they can be facilitators of development activities in their own areas. This process helps to empower the communities to take charge of addressing the affairs affecting them. CSC supports the volunteers and their communities by providing back-up services to ensure that the community's efforts are enhanced.

To kick start the community's efforts towards addressing the deforestation problem at Makalani, the Group Village Headman (GVH) himself volunteered to be the Extension Multiplier for the village and he therefore underwent the participatory extension training to acquire skills in community extension. After being trained, the Group Village Headman Makalani became instrumental in mobilizing other members in the village for PRA exercises related to in-depth analysis of the prevailing problem. The communities collectively rated deforestation as the priority problem. During the PRA exercises, the communities chose the type of trees they would want to plant in the village. They rejected Blue Gums (*Eucalyptus*) and Gmelina (*G. aborea*) after experiencing that the two species quickly degrade the soil rendering it unsuitable for crop production. They therefore opted for *Senna siamea*, which is known to grow fast, is not easily attacked by termites and livestock, and provides good wood for construction. Senna doesn't require as much water as the other two species. Christian Service Committee thereafter assisted the community by providing polythene tubes and sourcing tree seeds from the Forestry Research Institute of Malawi. CSC also trained the community in establishment and management techniques of tree nurseries. The communities then did their own establishment and management of nurseries with the facilitation of the Extension Multipliers.

Impact

This programme is an example of a consensus driven partnership, working with shared decision making to achieve environmental, social and economic sustainability in forest management. The model has unique features on responsibility patterns, local commitment, knowledge and management skills and integration of stakeholders at community level.

Since the activity started in the 1997/98 season, over 45,000 *Senna siamea* trees and 15,000 *Acacia polyacantha* trees have been planted covering the whole of Katundu Hill that is around 10 hectares

in area. The trees have been planted in a mixture with the already existing indigenous shrubs on the hill. The GVH and his subordinates have institutionalized regulations on access to the hill including not cutting trees from the hill, not grazing or setting bush fires. Whoever is caught violating these regulations is brought before the chief for disciplinary action. Every member of the village has responsibility for policing the protected area. The community has established that trees from the hill will only be used for communal functions such as supplying wood for funeral arrangements, construction of bridges, churches etc. However, the use still requires the consent from the Group Village Headman and the committee.

In addition to afforestation of Katundu hill, all members have established individual backyard woodlots of *Senna siamea* trees. This strategy has emerged very successful as one can clearly see pockets of woodlots scattered all over the village in the middle of a large stretch of bare land. From the same programme, the village has also managed to supply tree seedlings to 3 primary schools in the area (Chambazi, Chinkhuni and Mafosha), a health centre (Mkhuzi) and also to prayer houses. The afforestation programme in the village has also been integrated with agroforestry activities. Each household has mixed intercropped maize with leguminous trees for improving soil fertility such as *Gliricidia sepium*, *Faidherbia albida* and *Sesbania sesban*.

The programme is well internalized in the village. The villagers are able to explain with competence the objectives of the programme and how the community members themselves are operating it. There is a ten-member committee that coordinates the activities, receiving advisory services from the Extension Multiplier (GVH).

Site

Makalani village is in Dowa district 20km from Mponela trading centre along the road to Ntchisi town. The village is on the banks of the Nkalalo River that marks the boundary between Dowa and Ntchisi districts. The rural feeder roads to the village are passable throughout the year. However, prior arrangements for a visit to the village should be made through Christian Service Committee office at Area 18 in Lilongwe using these contact details: CSC, Box 30123, Lilongwe. Tel: 797 673/060/729; Fax 796 971.

THE LAST OF THE COMMONS: Mangweru Hill Indigenous Forest, Lirangwe

Background

“Once we got fuel and construction wood from behind our houses. From the same place today, not even a goat can find enough food. That hill used to have indigenous fruits, but today, it has not even fire-lighting wood. How long will this go on?” This is an observation many have made, a question many communities in rural areas have asked, and few have successfully come up with an answer.

Jamali village is one of those few that have answered a similar question about the now regenerated Mangweru Hill. Mangweru has for generations been the village's one and only reliable source of wild fruits, firewood, mushrooms, caterpillars, honey, and herbal medicines for both humans and livestock, thatching grass, ropes and construction poles. As far back as 1975, the hill became “literally naked” due to deforestation. In response to this problem, the village with their village headwoman held several open consultations in 1982, where they formed a 10 - member Village Forest Area Committee (VFAC).

The ten-man committee's initial task was to obtain from the village members the list of essentials that they could formerly harvest from the natural woodland on Mangweru Hill, which they could no longer collect. That list concretized the necessity of having communal indigenous woodland for the village. It also formed an agreed departure point for the committee's next task: regularly reminding each of the villagers, during village meetings, of their individual and collective responsibility in protecting and promoting natural regeneration of Mangweru vegetation.

Indigenous Knowledge

Comparing their own hill with the situation at a nearby graveyard, where trees always regenerated successfully, the committee informed the village that they needed nothing new to conserve their resource. They reminded each other that by controlling overgrazing, wild fires and careless felling, they could speed up the indigenous trees' natural regeneration; that only under those conditions were root suckering, coppicing and dispersed seed generation and growth possible. This is what all had been observing in their own graveyard for many years.

With all members' support, some 38 hectares were marked out as Mangweru Village Forest Area, and demarcated by a jointly planted band of *Eucalyptus* trees spanning about 13 hectares. Consultative planning, controlling and joint implementation of Mangweru woodland related activities were the latest responsibilities of the VFAC.

To ensure that the VFAC was competent in their responsibilities, the Department of Forestry trained them in basic forestry: woodland establishment, tending, harvesting and marketing, thereby reducing dependence on technical support from the government. The government supplied two patrolmen to help the village protect the woodland from fire and theft.

Collective Responsibility

To ensure that the village members lived by their commitment, regular meetings would be called by the Committee to discuss pending forestry activities. Activities such as firebreak maintenance, tree replanting, singling and harvesting would be classified, and the people organized into corresponding groups. Community development projects that benefit from the proceeds of the sales are also jointly identified. While the money is immediately banked with the

Postal Savings Bank awaiting a joint project, poles from the Eucalyptus strip have been used for activities like roofing a school block, building an under-five clinic.

Neighbouring Impact

The success of Jamali village lies in the consultative approach of the village head-woman that allowed popular participation in solving the village problems. Subsequently, the villagers became committed, as their views were part of the village plan.

In stark contrast to the many naked hills of other villages, Mangweru seems to be pointing an accusing finger at neighbouring communities. In response, several villages also formed their own VFACs to address their own problems. Their successes also depend on the style of their own traditional leadership.

Fifteen years down the line, the indigenous forest is nearly back to its condition in the olden days. Once more Mangweru hill provides medicines, thatch grass, construction poles, mushrooms, wild fruits and even the climatic effects of cooling the area while tempering run off and erosion from gardens, in the foot hill owing to the improved surface cover uphill. The hill also gives the villagers positive pride when neighbouring government employees and visitors from SADC view it as a model of collective effort, successful community mobilization and the view to villagers as practical custodians of functional indigenous knowledge.

Accessibility

Being in the suburb of Blantyre City about 20 km along Zalewa road to Lilongwe, and only 5km from Lirangwe Trading Center, Mangweru is accessible all year round. Bookings can be made through the Blantyre District Forestry Office. Technically, the dry season is a better time to visit as community members have the time to jointly attend to visitors. In the rainy season, rural people are occupied with farming activities.

COMMUNITY WILDLIFE CONSERVATION AND UTILIZATION AROUND LAKE MALAWI NATIONAL PARK

Protected areas such as forest reserves and national parks face persistent encroachment by communities bordering them. Communities use natural resources from the protected areas as a source of income and to support their daily needs. Policing by government personnel to curb the practice has mostly proved futile since communities do not understand the logic behind barring them from using resources that are natural and “God-given”. Unless communities have alternatives for meeting economic needs and are co-managers of the resources, then the problem of encroachment will still become a nightmare.

The Wildlife Utilization Raises Community Standards Project implemented by Wildlife Society of Malawi (WSM) was designed to provide education and economic alternatives from natural resources to communities surrounding Lake Malawi National Park so as to improve their rural livelihoods, thus alleviating dependence on natural resources from the park. The project is funded by the National Lottery Charities Board of the United Kingdom and administered by the International Centre for Conservation Education (ICCE). The project has been running since 1997 with an emphasis on consistently involving communities in analyzing the existing situation related to utilization of natural resources. The project has helped to mobilize communities into Natural Resource Management groups to practice afforestation using indigenous trees, guinea fowl rearing, rabbitry, fruit processing into jams and vegetable growing. Communities around the park use these activities as sources of income thus distracting their attention from illegally exploiting resources from the National Park. The Wildlife Society’s role in these activities is that of offering technical advice and facilitating the procurement of seeds, polythene tubes and other materials. WSM as a facilitator promotes local groups’ interactions by organizing team building sessions, jointly organizing natural resource management activities and effecting changes for improvements where necessary. The project also encourages women to become involved in the management of forests of *Borassus* spp. (palms) that are very common in the area and they use the palm fronds for producing a range of products such as mats, hats, baskets for household use as well as for income generation. Women are also involved in processing jam from locally available fruits such as paw-paws (papaya), oranges and lemons. A 500ml bottle of paw-paw jam is sold at K25.00/bottle.

The programme has also been extended to primary and secondary schools. Currently, there are 11 village groups and 10 schools participating in the activities. WSM has provided breeding stock of 4 guinea fowl (3 hens and 1 cock) and 4 rabbits (3 females and 1 male) per group. The groups act as a training ground and members then share guinea fowl and rabbits after they have multiplied but still maintaining the original breeding stock for the group.

Impact on the Community

In addition to the obvious reduced rate of encroachment into the park, the communities have been empowered to follow participatory decision-making process involving all stakeholders in the community related to utilization of natural resources. The communities are now able to appreciate that natural resources when properly conserved and managed can provide income to households. This is exemplified by the increased requests from neighbouring communities to become involved in the programme. The project is also building awareness of natural resource management issues among school children so that they will provide leadership in conservation of natural resources in future.

The Project Area

The project is implemented on the Nankumba Peninsula around Monkey-Bay Township in Mangochi district. Monkey-Bay is located along the lakeshore about 250km from Blantyre and 584km from Lilongwe. The project covers 11 villages: Chembe, Chidzale, Chirombo, Kasankha, Masasa, Monkey-Bay township, Msaka, Mvunguti and Zgambo. WSM has a project office in Monkey-Bay but contacts can easily be made through the national headquarters using this address: WSM, P/B 578, Limbe, Malawi. Tel: (265) 643 428 or 643 765.

LOCAL COMMUNITIES IN MALAWI MANAGE THEIR OWN FISH STOCKS – THE BEACH VILLAGE COMMITTEES

The Department of Fisheries with the support of the Malawi-German Fisheries & Aquaculture Development (MAGFAD) initiated the Participatory Fisheries Management Programme along Lake Malombe and the upper Shire River to deal with the problem of accelerated depletion of fish stocks. The programme provides a unique example of institutionalizing Community-Based Natural Resource Management (CBNRM) in Malawi. The programme's approach is built on the experience learnt from the traditional laws and practices used around a fishing island in Salima district (Mbenje Island) in central Malawi to avoid over-exploitation of fish resources in the lakes and other water bodies. Sub-Chief Msosa of Mbenji Island together with his subordinate traditional chiefs have upheld traditional fishery laws around the island based on the ancestral beliefs that have been enforced for over 40 years. The maintenance of fish stocks around the island emerged to be spectacular compared with conspicuous depletion of fish in Lake Malawi and other water bodies.

Traditional Fisheries Management at Mbenje Island in Malawi

There is a traditional fisheries management scheme on Mbenji Island that regulates fishing around the Island. Traditional leadership has enacted these regulations since early 1950s. The island has been subjected to a closed season, which begins in December and ends in April, with the aim of allowing fish to breed and stocks to recover. During the closed season, anybody found fishing the waters surrounding Mbenji is apprehended and brought before the chief for disciplinary action. There are institutionalized traditional beliefs associated with some operations at the island such as not allowing the women to visit the island, no gambling or beer drinking on the island, no immoral behaviour of any sort. It is believed that indulgence in such acts would offend the spirits that control the availability of the fish around the island. The penalty for offenders varies from a complete ban on fishing from the waters to payment of up to 6 goats. This system has for a long time prevented a significant decline of fish stock near the island.

Mbenji Island is situated approximately 15km off the main land (Chikombe beach) in the area of Sub-Chief Msosa in Salima district. The main type of fish caught around the area is Utaka (*Copadichromis* spp.). Opening of fishing season at the island is graced by performance of traditional ceremonies and traditional dances with feast as a way of celebrating the opening.

The Problem

The major economic occupation for the communities along Lakes Malawi, Chilwa, Malombe and Chiuta is artisanal fishery. Of late, the catches in these water bodies have been declining at alarming rates owing to an open fishing policy. The open access to fishing meant that fishermen were free to fish from the lakes at will and this exerted tremendous pressure on the fish resources. Research conducted at Lake Malombe showed a sharp decline in fish catches from 12,936 tonnes in 1982 to 2,580 tonnes in 1995. This situation, obviously, started getting very worrisome. The formulation of regulatory fishing policies and regulations was previously the responsibility of the Fisheries Department and the laws were just enforced on the fishermen. Obviously this top-down arrangement created some tension between the Department and fishermen. The local people could not understand the idea behind the Fisheries Department's concern about fishing activities in the area. In 1994, the Participatory Fisheries Management Programme was launched with the objective of empowering the fishing villages to take responsibility of managing fishing on Lake Malombe and the upper Shire River. Upon discussions with the fishing community, it was conceived that communities should organize

themselves into institutions as a way of institutionalizing their participation in managing fish resources. These institutions are called Beach Village Committees (BVCs). The BVC is composed of fishermen from the surrounding beaches, women and men with an interest in fishing, Group Village Headman and Village Headmen from around the beaches, Traditional Authority (TA) and the Fisheries Field Assistant who works with BVCs. The BVCs have acted as a two-way channel of communication between the Fisheries Department and the resource users (fishermen). The resource users are now able to enact their own fishery by-laws and appreciate the importance of enacting such laws. The fishery laws were designed following the traditional fishing principles enacted at Mbenji Island. The BVCs have well stipulated constitutions that guide their operations. The BVCs have among other things instituted the change of mesh sizes as well as enforcing compliance of fishermen with the closed season. For example, in Lake Malombe there has been a change in mesh size from $\frac{1}{4}$ inch and $\frac{1}{2}$ inch to $\frac{3}{4}$ inch and in Salima the recommended mesh size is 1 inch. The mesh size varies from place to place depending on the type of fish that is prevalent in the area. Members of BVCs have already started reaping some benefits from these measures. Small fish like Kasawala (immature chambo of less than 15 cm long) is no longer netted, as was the case in the past. There is also an increase in the amount of fish caught during the fishing season since fish are having a chance to breed during the closed season.

Within the BVCs understanding, every member of the community around the fishing beach has to take part in apprehending those who violate the set regulations. Depending on the magnitude of the offence, wrongdoers have their fishing nets confiscated, are asked to pay a fine or are barred completely from fishing from the beach.

Despite the presence of these mechanisms, there are still some members who do not comply with the BVCs regulations. However, patrolling of the beaches for offenders is hampered by the absence of patrol boats. The capacity of the BVCs could therefore be greatly enhanced if boats were available. The BVCs are, however, exploring other possibilities of raising funds, which can be used for their operations. These possibilities include income-generating activities such as vegetable gardening, charging monetary fines for offences, committee rice fields etc. The money realized from these activities could then be used for hiring boats for patrolling.

The formation of Beach Village Committees has been replicated to other areas along Lake Malawi, Lake Chilwa and Lake Chiuta. Most of the villages around fishing beaches have been inspired by the institutional approach adopted at Malombe through the radio programme known as Usodzi Walero (Modern Fishery) aired in the Malawi Broadcasting Corporation at least twice a week. The Fisheries Department these days receives frequent requests from different fishing communities seeking advice on formation of their own BVCs.

Currently, there are 31 BVCs around Lake Malombe and the upper Shire fishing areas and 48 BVCs along Lake Malawi. Lake Chilwa and Lake Chiuta each has more than 20 BVCs. The number of villages sharing a BVC ranges from 1-9 depending on the distance between beaches. Some of the BVCs that are making remarkable progress include Chimwala BVC in Mangochi, Chikombe BVC in Salima and Kantchentche BVC in Salima and of course the Mbenje Island BVC.

The details about the operations of the BVCs can be sought from the Department of Fisheries, P/B 593, Lilongwe, Tel: 743 060.

LOMADEF: Lipangwe Organic Manure Demonstration Farm

Location

LOMADEF is based at Ntonda, T/A Phambala Ntcheu, some 18 kms from Manjawira trading centre off the M1 (the Blantyre/Lilongwe road). In the dry season, it is accessible to all types of vehicles using the Ntcheu and Manjawira roads.

The farm, which has now become a project run by LOMADEF as a Non-Governmental Organization, operates on 3.66 hectares of land that was donated to the project by Mr. Kanjanga the Executive Director.

Background

LOMADEF was born from the initiative of Mr. Kanjanga, who was initially groomed at Thuchira and Mponela for the position of Farm Manager of the Zambezi Evangelical Church (ZEC). Before then, Mr. Kanjanga was a Train Conductor for Malawi Railways, and later a Salesman for Halls Garage. Because the position of the Farm Manager did not materialize, he decided to use the knowledge he had gained for his own benefit, having been convinced that it was possible to live a happy and satisfying life as a simple farmer, using what nature provides.

He developed the drive to venture into organic farming after he attended two courses on sustainable agriculture organized and conducted by Christian Service Committee (CSC). On his own, he started making compost manure and trying leguminous crop combinations for improving fertility and controlling run off. Others asked to learn from him on seeing the quality of harvest he realized from using organic manure as opposed to chemical fertilizer. All the interested people joined hands, forming a club of 17 members. From 1993 to 1998 the group expanded to 26 clubs, 12 in Ntonda (Ntcheu), 5 in Balaka, and 9 in Machinga. Each club has an average of 20 members. The clubs, each contribute K100 per year to the running of the central committee, to be used for providing stationery and meals for meetings. All these clubs are involved in and advocate the use of organic and low-cost technologies in farming.

The activities of LOMADEF were boosted with funding from OXFAM. LOMADEF then linked to CABUNGO for an Organizational Development (OD) exercise. This process has given LOMADEF its current shape, with vision, mission statement and even a Logical Framework formulated in Chichewa. The Organizational Development exercise was done with only the Executive Committee who later conducted similar processes club members in villages. Among the subjects covered were leadership skills in clubs, and financial management.

LOMADEF's goal is to enable resource-poor farmers, especially women, to participate actively in sustainable agriculture activities that could enhance household food security and also to facilitate the involvement of communities at the grassroots in the implementation of the programme. The programme is geared towards the integrated use of a wide range of low-cost technologies within the farm to ensure profitable and efficient food production. The programme's approach is based on facilitating full participation of farmers and other rural people in all processes of agricultural problem analysis, technology development, adaptation and extension.

Notable activities of LOMADEF and its member clubs are:

Reclamation of degraded land, using marker ridges, graded bunds, *vetiver*, and *dolichos* beans, for improving both soil structure and crop yields.

Production of compost manure, using crop residues, common grass, and ploughed-in legumes, as a response to a shortage of farm animals for manure.

Use of leguminous crops: *Sesbania sesban*, *Tephrosia*, Pigeon peas, *dolichos beans*, *Leucaena* and groundnuts both as nitrogen fixers, and as cover crops.

Production of natural organic pesticides from plant combinations like *Tephrosia*, *chillis*, *futsa*, and *garlic* for controlling aphids and cutworms.

Ridge realignment using the “A” frame, which all members are learning to make on their own.

Experimenting with agroforestry combinations

LOMADEF is currently constructing a Training Centre at the farm where farmers from across the country will undergo training sessions in organic farming. It is hoped that this will help expose more people to the principles and advantages of organic farming thus reducing the common dependency on use of chemical inputs.

LOMADEF is a member of several organic associations including SHOGA.

TIKONDWE FREEDOM GARDENS

“Environment is the best Professor. It has no moods, and provides wholesome lessons. Co-operate, and do not compete with nature. All is there if only people can learn to see. What is required is not more or less pairs of hands, but an increased efficiency of the current pairs of hands, backed by brains that are willing to experiment”.

Introduction

One of the rare sites in Malawi is a comprehensive integrated garden that supplies everything to the owners, with no recourse to inputs such as inorganic fertilizers and pesticides. Such is Tikondwe Freedom Gardens. Tikondwe Freedom Gardens, belonging to Mr. and Mrs. G. Chinkhuntha, are situated some seven kilometers east of the Dowa turn-off from the Lilongwe-Kasungu road. Six kilometres along the gravel road to Dowa, is a Catholic Church, on the right hand side of the road. Next to that church is a turn to the right. That turn, goes for about a kilometer to Tikondwe Freedom Gardens. This area falls within Dowa East RDP, under Kasungu Agriculture Development Division.

The gravel road from the Dowa turn-off on to the Gardens is accessible by most cars, including saloons, for the whole year but in heavy rains, a four-wheel drive is necessary.

Background

Mr. Chinkhuntha believes that a simpler life, less dependent on money, but rich in all that one needs to lead a healthy and happy life, is possible for everybody in Malawi. He worked formerly as a supervisor of evening classes at the Polytechnic (then Blantyre Further Education Center), then as ADMARC Area Market Supervisor and, finally, Likuni Press Sales Manager. Having lost his first job as a sales manager he decided to lead a non-dependent life growing what his family needed on a small piece (100m²) of dambo land. The drive inside him was to take advantage of the potential market at the International Airport that was opening soon at Lumbadzi. The piece of land acquired was initially a flood plain area overgrown with reeds and underlain with heavy clay soils that suit flooding. The village headman gave the piece away as, in his view, Chinkhuntha was just another scatterbrain with energy to waste. Knowing that everybody considered him insane and that the government officers would not approve his approach to farming, for the first eight years he operated quietly, attracting no attention, he wanted to be free and do things his own way. Hence the name Freedom Gardens.

Recreating Eden

Mr. Chinkhuntha realized that some drainage was needed if any crop was to be grown on the small piece of land he had received. He cleared the whole area of all the reeds and dug a canal traversing the area, putting the soil excavated from the canal into bands. He placed the cut reeds and the rest of the organic matter in the canal and planted some bananas and sugarcane along the canal, and lightly covered it with loose earth. The crops stabilize the canal, while the organic matter keeps it permeable and keeps the area effectively dry. The mound of excavated soil formed a ridge that is planted with crops. This was the beginning of trenches and ridge ways, the system on which Freedom Gardens operates today.

On the periphery of the area, Mr. Chinkhuntha diverted the river course to prevent further flooding during heavy rainstorms. Mr. Chinkhuntha believes that one should cooperate with and

not compete against nature. The flood control activities were gradual, moving the river course some twenty meters away from the productive zone.

As an operating practice, Freedom Gardens avoids any use of fire for clearing or disposing any weeds or crop refuse. Everything is incorporated into the soil. Soft material is incorporated into the soil all over the Gardens, while coarse material goes into the trenches, and is lightly covered with soil. The material in these 1 metre-deep trenches is removed regularly as completely ready-to-use organic manure for the rest of the crops. These trenches traverse the area dividing it into several discrete plots.

The drainage system, however, worked too well, making the soil excessively dry in the dry season, and necessitating hand watering. Hand watering proved tiring and Mr. Chinkhuntha turned to furrow irrigation, using the canals as the Old World did. During the rainy season the trenches are made bigger and deeper to drain the excess rainwater. In the dry season, canals are made on the ridge, creating a shallow channel network that waters the whole area.

To ensure that there is enough water all year round, water swales were dug around the garden in all the natural waterways that are potential gullies for rainwater. These swales harvest the rainwater and ensure that all of it percolates into the ground, preventing any erosion, and keeping the water table very high all year round. The water permeates the surrounding area, keeping even the deeper roots of fruit trees moist.

One lesson learnt by Freedom Gardens in their efforts is that most of the moisture is not lost through evaporation but through absorption by the dry soil. The solution to this has been to keep the soil moist by ensuring soil surface cover from crop refuse - here sugar cane leaves and maize straw are spread over idle plots covering the soil surface, thereby maintaining residual moisture. The other practice that has been adopted is instituting a cover crop such as strawberries for the year of fallowing a plot. After the fruit is harvested, vines are thinned periodically. Such maintenance of residual moisture coupled with swales creates a self-sustaining oasis. That way Freedom Gardens produces crops all year round and harvests maize three times a year.

Diversity at Freedom Gardens

Freedom Gardens is a combination of all aspects of organic farming: traditional agriculture, permaculture, agroforestry, zero tillage and conventional agronomy minus the use of chemical fertilizers and pesticides. Crops growing on this farm include maize, tomatoes, egg plants, mustard, lettuce, kale, sweet potatoes, cabbage, carrots, a variety of beans, strawberries and peas, cut flowers, turnips, spices and herbs such as celery, fennel, marigolds, calendular, lemon grass, sage, chamomile, sweet basil, globe artichoke, thyme, marjoram, parsley, yarrow and fruits such as oranges, lemons, pawpaws, pumpkins and mangoes. The gardens rely on crop combinations to control pests. For example, marigolds are interplanted with vegetables to ward-off aphids, white wooly flies and soil nematodes. Most of the fruits are planted along humus filled trenches that have made cropping possible even in the rocky sections of the farm. Short-lived crops are planted along longhaul irrigation channels, taking advantage of the moisture that these channels provide along the sides. Bananas and sugarcane are grown both for food, sale and to stabilize trenches.

The farm relies totally on the crop and weed refuse for its fertility and on intercropping, a deliberate herb/vegetable mixture for pest control. Manually constructed gate valves made of bricks, link all channels and there is no pump of any type.

The oxbow lakes previously formed by the river, have been turned into dams for water storage and fishponds. The fishponds and dams have their sides stabilized using vetiver grass. The vetiver grass is later cut when it overgrows and is laid along the dam edges to provide mulching and protect the edges from the scorching sun. Excess grass goes for mulching on the other crops such as maize and cauliflower. The gardens are fenced by a hedge of Tithonia, whose herbage rots very quickly, providing ready humus.

The owners of the garden are terracing near the fishponds. The terraced area will in future provide chalets, and camping sites right in the garden. A few livestock will provide biogas and meet all the dairy requirements of the guests. That is the beginning of agro-tourism that is now in its infancy. The garden plots are all in a multiplicity of geometrical forms that are inspiring to behold. The head of water for the irrigation channel defies all engineering ingenuity, beyond imagination. The visitors to the gardens - for touring- have to pay MK50.00 per head for a day's tour and explanations. For lunch, the lady hostess and her fellow women run a lunch service at MK60.00 per head per meal. However, these are token charges because what each person harvests from the farm by the end of the day in terms of ideas and knowledge is way beyond the cost of transport, tour fee and meals combined.

Freedom Gardens are members of the international organization: Willing Workers of Organic Farming (WOOF).

Tikondwe Freedom Gardens has become a haven of the otherwise unproductive Dowa, near the notorious Dzaleka prison. In December 1998 on to February 1999, Freedom Gardens fed over three villages through a food for work arrangement. All the surrounding local village heads appreciate the work of one common person with some vision, believing in the productive future that unfolds slowly.

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OASIS IN MAYANI: Jampa's Integrated Farm

Anyone who has gained knowledge experientially has that knowledge to use for life. So Mr. Jampa summarizes his own life and successes to date. He is a well-known and seasoned farmer from Chief Tambala, Mayani EPA, in Dedza Hills RDP of Lilongwe ADD. Widowed but remarried, Mr. Jampa is seventy-two years old and still going strong. He has two children, one an adult driver by profession by the first wife, and another one, a little girl by the current wife.

For a long time, he worked for the Water Department in the Ministry of Works in Nsanje, Chikwawa, Mangochi, Salima, Wovwe and Songwe in Karonga. His job involved holding the Surveyor's stuff, and determining water quantities, depth, and locating points of potential economic activities like hydro and irrigation schemes, drinking water collection points along the river courses and, wherever necessary, constructing weirs and checkdams. This gave him experience in handling water of various flow dynamics. His team identified sites like Wovwe that provided the northern region with electricity.

He retired in 1966 and acquired a three-hectare piece of land in the path of a seasonal stream, whose stormy water periodically washed away the crops. Because his work with the Water Department had never been learned from books but through looking, listening and doing, water management skills are still at his fingertips, and so the rainstorms did not intimidate him. However, as soon as Mr. Jampa had opened up his garden, the run-off soon created a gully.

Do not Fight Natural Forces

One of the many lessons Mr. Jampa learned from his job was never to fight natural forces but to join them. The gully had been widening into a hungry river that carried away crops and soils together with the water. He recalled his checkdams to slow down the speed of the water that at the same time reclaim whatever soils had been carried from uphill. Then his dream of keeping fish also came to mind.

He constructed a 30m long winding flood barrier upstream, created a new meandering river course and planted *Napier* grass along the banks and the bed, thereby slowing down the speed of the storm waters. Then he built three dams and planted bamboo and other indigenous trees for embankment support. He introduced fish into the dams and created a gravity-fed irrigation system that circulates the water between the fishponds, the vegetables and fruits around the ponds and below.

He grows a variety of crops year round: bamboo, sugarcane, potatoes, maize and eggplants tomatoes, leafy vegetables (onions, cabbage, turnips, rape), fruits such as bananas, pumpkins, peaches, strawberries and mangoes. He has also introduced both the hollow and solid varieties of bamboo around his house for domestic uses.

Mr. Jampa has now used the bamboo and *Napier* grass to make a living fence around his land. The bamboo and indigenous trees planted along the stream help in conserving water in the stream and dams.

Benefits to the Community

By August 1999, in the area of Mayani, as in most parts of Malawi water had become a problem. Decreasing levels of ground water would not provide water even if more wells were drilled. Mr. Jampa's garden, from the outside looks like a patch of rainforest in a desert. From here water

flows down, providing living hope to neighbours down stream. In the dry season, Mr. Jampa is the major supplier of leafy vegetables for Mayani, the sole supplier of fresh fish in the area, and the sole supplier of bamboo for basket and domestic construction work. He periodically sells bananas, peaches and sugar canes depending on the season.

He is happy to explain to interested parties the habits of the various crops, fish and bamboo and how one can grow his own. For example, he has a bamboo species that is never attacked by weevils and that species is nearly extinct in the wild. It is only around Mr. Jampa's garden that children can taste the remainder of the once plentiful wild fruits. Beside earning money from selling bamboo and Napier grass, Mr. Jampa is perpetuating the basket making skills of Mayani, which in his absence would lack raw materials.

Opportunities

Age is creeping on him and so retarding his progress. He works single handedly and relies on hungry families for labour as they come to sell their labour in exchange for maize and fruits. Mr. Jampa bemoans government staff's tendency to look down on indigenous skills and promote foreign ideals. Of late, he rarely receives visitors or invitations to meetings from where he can learn more and gain new insights. Since all his skills were learned experientially, he believes he could pass them on to any average person regardless of literacy level. Asked if his neighbours have learned from him, he smiles and says: "The truly hungry and the poor come to learn; the lazy and children of the rich don't".

Visitors

Mr. Jampa is in Mayani, under TA Tambala, Mayani EPA, in Dedza Hills RDP of Lilongwe ADD. This place is some 16 km off the Dedza-Lilongwe main road, turning at Linthipe on to Tambala. It is most readily accessible in the dry season, as the road has not been properly maintained lately and can be slippery in the rainy season.

All interested parties must book at least three weeks in advance through Dedza Hills RDP staff. All visitors must carry their own packed meals. Accommodation can be found in Dedza. Packed meals must be bought in Lilongwe or Dedza.

HORTICULTURAL ACADEMY IN THE VILLAGE: The Chijere Do-It-Yourself Horticulture Improvement Team, Nkhata-Bay

Background

They receive high rainfall. Their land is rocky and on steep slopes. The soil has been used annually for a century or more. Fertility has been declining and the village's population steadily growing. Opening more land for agriculture in order to grow more also means having less indigenous woodland from where to obtain firewood, traditional medicine and other resources. Such is the background to the self-searching exercises that the people of Chijere, some 15km from Mzuzu towards Nkhata-Bay, went through to arrive at their current do-it-yourself approach to environmental management.

A Common Enemy

This area is under Mzuzu Agriculture Development Division, and is frequently visited by the Land Resources staff from the ADD. To maximize the benefits of the visits of the agricultural staff, the village farmers teamed up and formed a group whose sole motivation was to solve the problems each family was facing in its garden. Particularly striking, unlike the usual story of clubs and blocks, the group understands that the government staff is time-constrained, and that they have little knowledge of the villagers and their gardens. Because of this, these farmers usually demand a demonstration of any new technology or idea, which afterwards they can adapt and perfect to fit their own requirements, as prescribed by their problems.

Visible Benefits

Crops grown here include maize, beans, potatoes, cassava, bananas- traditional and improved varieties (from Bvumbwe Research Station), avocado, paw-paws, citrus and mango fruits. The farmers themselves now improve nearly all these fruits, through either acquiring improved seed such as bananas, or making a common nursery, or grafting and budding. Each member of the group can now graft and/or bud his/her own fruit trees and seedlings. The group has nurseries of bananas and vetiver grass for a ready supply as need arises.

One of the member's gardens, Mr. Mwale's that is along the road offers a good contrast of areas given complete attention (vetiver grass, ridge re-alignment, water harvesting and organic manure) as compared to other gardens without these improvements. The first area provides competitive yields, and sometimes consistently better yields, compared to using chemical fertilizers. The water harvested also enables Mr. Mwale to grow vegetables on steep slopes, in the dry season. To speed up his compost activities, Mr. Mwale keeps his shady mango trees intact, to provide shade to several of his compost pits and heaps. On the other hand, Mr. Phiri his neighbour uses pasture crops such as silver leaf as cover crops for a less fertile area, obtaining fodder for his cattle from the same pasture.

Mr. Phiri, a member of the farmers of Chijere, has done one of the famous adaptations of incoming technologies. As he and other farmers were using the A-frame to re-align their ridges to follow the contours, they realized that centering the A-frame was taking too much time. Hence, they experimented with various possibilities for saving time. Finally, Mr. Phiri came up with the use of a line level in addition to the A-frame. The mark on the string, central to the gradient, improved the characteristic of the dumpy level such that the slope of the land had no major effect on how the A-frame worked. This improvement made work easier for everybody

and henceforth the equipment is known as the PhiriLino-frame (reflecting combined features of a line level and an A-frame).

Environmental Conservation

Because the farmers here can maintain the productivity of their gardens, via organic manure, water harvesting, soil and water conservation, they do not see themselves wanting to extend their gardens. The availability of animal feeds from improved pastures; minimize the threats from overgrazing, while also providing cover for the fragile areas around the village.

Traditional Teachers

The farmers of Chijere combine their indigenous knowledge with the new methods taught to them by the Land Husbandry staff. While they are open to new ideas, they are also determined to adapt the new knowledge to their own needs. The team is very friendly and ready to teach their skills to any individuals or groups that may be interested in improving their own situation.

Chijere is accessible all year round. However, visitors should book through the Land Husbandry staff of Mzuzu ADD. This area does receive heavy rainstorms, and visitors during rainy season need to prepare well, keeping that in mind. Because Chijere is close to Mzuzu, visitors can always book accommodation and meals in Mzuzu City.

SUSTAINABLE LIFE ON STEEP SLOPE: The Jumbes, Mthiramanja EPA, Mangochi RDP, Machinga ADD

Background

Twelve years of deliberate labour lie behind what today looks a paradise on a hill slope. Here one finds fruits like custard apples, mulberries, guavas, mangoes, bananas, lablab, and various types of beans, sorghum, maize and sugarcane. Agroforestry species of many types are also available including leucaena, tephrosia, pigeon peas, sesbania and common beans, while sisal, and vetiver grass nurseries front the farmstead. In August, a mulberry tree fronting the house provides both shade and immediate refreshment for arriving guests. Here is the garden and home of Mr. and Mrs. Jumbe.

The family initially hailed from Blantyre, TA Machinjiri area. They came over to Mthiramanja in 1987, after retiring from his job as a driver in search of farmland that was not available in Blantyre. The best he could acquire was this marginal and steep-sloping land. Here the family continuously cultivated for three years. However, 2.5 ha of glaring rocks, shallow stony soil and yawning would not yield much for the family despite all the labour.

Romancing the Stones

The will of the family to live happily on what marginal land they had, prompted Mr. Jumbe to ask Machinga ADD Land Husbandry team for help. Then, under the department, there was a Conservation Measures Messages Development project. Mr. Jumbe's garden was included in the project. The project helped interested farmers peg and construct contour marker ridges, plant them with vetiver grass to conserve soil and water, and also to grow appropriate agroforestry crop species.

Two years of labour and technical advice saw the rainwater runoff effectively controlled and crop yields rising. Before any technical advice came, the family created run-off barriers in strategic places using the very rocks and stones that had earlier proved problematic. Contour ridges were fortified with vetiver grass, which after three years was so well established that some of it could be cut for roof thatching. Conservation measures included planting of leguminous trees, leucaena and pigeon peas (*Cajanus cajan*) with pruned biomass used as organic manure. After five years, the fertility had recovered enough that even potatoes and cassava could be grown on the stabilized soils.

Bedding the enemy

Because the family built their house on the highest part of their steeply sloping land, in the rainy season their very roof was the source of fast running water that swept the soil away. It dawned on the couple that the water could be harnessed for some use. To that effect, Mr. Jumbe designed a two hundred-litre water reservoir as a large standing concrete pot, into which all water flows off the roof via a roof gutter. Excess water is channeled along waterways that lead it into distinctive holes where crop refuse and other vegetative matter have been thrown to form manure.

This reservoir is also filled in the dry season with water from a distant well, saving the family some time spent on fetching water from a distance. The family also keeps their own chickens and goats for manure that is incorporated in the compost pits. The animals also supply eggs and meat. In the dry season, goats are fed from agroforestry tree foliage.

Community Impact

Not many people could swallow their pride and buy foodstuffs from the very person to which they gave marginal land. Many saw the Jumbes, working piece by piece, improving their marginal land. Today in the area, the Jumbes are suppliers of eggs, fruits, maize, cassava, and even sisal for construction purposes. Using their experience, they also managed to level a sloping part of a riverbank, some three or more kilometres away from their house and made a dry season garden out of it. They do also grow vegetables enough to sell to the very staff that gave them technical advice.

Too proud to beg or buy indefinitely, many neighbouring farmers have learned the soil and water conservation methods from Mr. Jumbe. Having seen the success of the Jumbes, they also planted their own vetiver grass nurseries to vegetate their contour ridges. Many have also acquired agroforestry tree seeds and seedling to improve their own situations. High yields for crops like maize, grown successfully along side natural trees such as Masuku (*Uapaca kirkiana*) and Maula (*Sclerocarya caffra*) have shown many that one can grow crops and trees together. Many existing indigenous trees have been singled out to form stumps and left to regenerate alongside various annual crops. The Jumbes periodically and strategically prune the trees (pollarding) for a variety of domestic uses.

Both the husband and wife have been so involved in all the farming activities that in the absence of the husband, the wife is able to host and guide visitors around their garden. Most people do not need to hear from the mouth of an agricultural officer anymore as they can learn the lessons with their own eyes.

Visitors

The Jumbes place is some 15 km to Mthiramanja EPA, left turn at Ulongwe off the Liwonde-Mangochi Road. The road is accessible by all vehicles in the dry season but only by 4x4 off-road vehicles in the rainy season. The family can accommodate a maximum of 15 visitors at a time. Having no public transport in the area, the Jumbes require their prospective visitors give at least a month advance notice through Machinga ADD if they are to provide meals. There are no restaurants in this rural area. Accommodation can be found at Ulongwe Trading Center or Mangochi Town. The Jumbes need at least a fortnight advance notice from all visitors, so that there is some family member to guide the visitors around.

SEASONAL FARMERS; SEASONAL FISHER COMMUNITIES: Mangochi Rural Development Project

The communities along the lake were previously fishers. During the off-season, they have been considered by their upland neighbours as lazy people. They have been reputed to work by night and celebrate by day. Of late, however, even in the fishing seasons, fish catches are progressively declining and the fishers have to survive. To do that, they must find alternatives including working by day.

In fishing communities along the lakeshore of Mangochi, from St Johns to Club Makokola, one now sees grays, greens and crimson along the roads, where one used to see only Chambo, mats and Malambe (Baobab) fruits. The greens are leafy vegetables, the grays are cucumbers and watermelons and the crimsons are tomatoes and chillis. Such is the transformed economic atmosphere of the lakeshore road, thanks to the co-operation between the Fisheries Department at Mpwapwe and Mangochi Rural Development Project. With the advice of Fisheries Assistants, the fishing families realized that their own survival was at stake as catches were going down.

Surviving the Rainy Days

With funding from Fisheries and advice and inspiration from agricultural personnel, the fishers organized themselves and visited their farming cousins inland at Bembeke, Dedza. Attached to family friends, they had long discussions, practical lessons and observations of their colleagues' survival. It dawned on many that the people in Dedza survived the hard way, sometimes running out of water, and having to dig deep wells in the dry season, when they themselves had free water running a stone's-throw away from their houses. They returned home, fired with the enthusiasm to try and have the best of both the fishing and the farming worlds.

Impact On the Community

Upon their return, many opened small vegetable gardens; experimenting with the seed they had received from their friends. A few weeks of waiting surprised them with vegetables that were immediately sold at the roadside. Because holidaymakers travelling to the lake were often frustrated because they had to bring vegetables all the way from Blantyre and Lilongwe, it was a relief to find fresh vegetables in Mangochi. The year round fresh water is being readily and widely utilized, proving less difficult than many originally thought.

Experiential Learning

The Mangochi case forms a very credible example. The exchange visits were the quickest way of passing on real-life experiential lessons at a minimal cost. Proof of this is the green leafy vegetables and fresh maize, the rare orange of carrots, grey of onions and the crimson of tomatoes that one sees along the Mangochi to Monkey-Bay road.

MABULABO VOLUNTARY INITIATIVES (MAVOTI)

Mabulabo Voluntary Transformation Initiatives (MAVOTI) is a community-based non-governmental organization, in a class of its own, managing the community's concerns, using the resources available within the community from its members.

Background

MAVOTI is based at Mabulabo Traditional Authority headquarters, in the area that is called Elangeni. It is 65 km from Kasungu, and 12 km on a graded road towards Kaluluma turn, off the Kasungu - Mzuzu road, just before Nkhamenya.

Founded and run entirely by rural communities hailing from adjacent villages, MAVOTI started in 1995, under the inspiration of the late Rufton Tomoka, the former Executive Secretary of CONGOMA, who came from Mabulabo. The organization emerged with no tangible assets other than brains and dreams. After many sessions of brainstorming and refining their dream, the members started attending to the immediate concerns of the community: bridges and 27 km of road to make Mabulabo more accessible.

At the same time, the secretariat started looking around and applying for start up funds. They approached several aid agencies. However, in the transitional atmosphere of the time, government officers and politicians were still dangerously impulsive. When MAVOTI's application to the Federal Republic of Germany was successful, about MK7, 2 million was sent to MAVOTI via the government Treasury. The government department claimed no knowledge of the existence of the organization and returned the money saying that MAVOTI was probably a group of political dissidents. In reaction, the Kohl administration sent its embassy staff and Malawi government personnel (separately) to verify MAVOTI's existence. Following a positive report, the German government sent another check for MK3 million, this time via the Germany Embassy in Malawi.

From that funding MAVOTI, between 1996 and 1999, built an institution that has a secretariat (office for the Managing Director, executive committee office, often used by loans committee chairman), a hall/conference centre, arts-craft centre, stores block, guest block, kitchen and tuckshop for MAVOTI women's products. The organization also bought a 7.5-ton Mercedes Truck that does haulage work for the organization and even serves on emergencies in the area. From the balance, they built a health centre, and run a revolving fund. The fund started with K3, 330 and has now grown to MK2.7 million. The fund is operated mostly for loans for farm inputs (seed and fertilizer) at an agreed interest rate.

The organization has a current membership (August 1999) of around 950 households in the various villages of Mabulabo. The structure of MAVOTI is a board of Directors- currently chaired by Mr. Chidumula Nkhata (Managing Director), Executive Committees (including a Loans Committee, currently chaired by Mr. Chisi) and central committees. There are currently 15 central committees representing 15 subgroups of the entire area. This was intended to reduce the unwieldy management chain involved in the executive addressing community concerns. Members of the central committee are represented in the executive committees and also at the main executive committee that meets regularly at the secretariat.

The organization is currently affiliated to organizations such as the Council for Non-Governmental Organizations of Malawi (CONGOMA), Community Partnerships for Sustainable Natural Resources Management (COMPASS) and Capacity Building for Non-

Governmental Organizations (CABUNGO), while having a good working relationship with various government departments and aid agencies.

Mission Statement:: The area and the people of Elangeni should make marked positive progress socially, economically, environmentally and politically.

Community benefits and progress

Among the activities that MAVOTI has accomplished include the construction and maintenance of bridges and roads. Before 1996, Mabulabo was barely accessible in the rainy season by any cars other than 4x4. The river crossings were also seasonal and the road was severely gullied. Servicing was dependent on the priorities of the local government. Worse still, when the community's self-help spirit was choked in the new political dust, what had previously been "youth week" (when people all over the country attended to social structures of their communities) was no longer a positive event.

So, the maintenance of the social structures reverted to the local government whose budgetary allocation has always been slim.

MAVOTI identified that gap and mobilized the existing goodwill and personnel resources for collective service to the community. To that effect, members started repairing bridges first with tree trunks and logs and with timber and concrete blocks for durability and conservation of the otherwise essential trees in the neighbourhood. To date, 27 kilometers of roadwork linking Elangeni to the main road and other rural centers is regularly maintained. That made Mabulabo accessible all year round. The American Embassy that donated US\$8,010 worth of timber, and culverts has also supported the roadwork.

The community has access to the hall at the secretariat and women members have the tuckshop and arts center from which they sell a variety of their garden, and craft products. Behind the secretariat is a demonstration garden that members use to propagate any new ideas that have been identified that either increases productivity or makes the land use sustainable. Proceeds from this garden are mostly kept for hosting MAVOTI guests. The demonstration garden also provides an opportunity for members to experiment and strengthen their trust in indigenous knowledge and to exchange agricultural experiences that allow increased productivity at minimal cost.

MAVOTI members also build school blocks in the areas wherever a need has been identified. At the time of writing, there were 220,000 bricks ready for building more school blocks. They have also completed one health centre (including housing for the health personnel). The people are now looking to the government to provide them with the necessary personnel and medical supplies. Construction of housing for a police post is in progress to address the problem of rising crime. An official application had already been made to government for personnel and temporary accommodation for the officers has been arranged.

The most striking benefits to the common members have been the roadwork - which involves everyone, the bridges and the loans for farm inputs. Because Mabulabo had poor access, the people had problems with accessibility of chemical fertilizers and improved crop seed from a reliable ADMARC (Agricultural Development and Marketing Corporation) post. Now MAVOTI buys both chemical fertilizer and improved seed for its members, delivers it to Mabulabo on agreed interest terms. That has made life relatively easier for the common farmer and increased MAVOTI membership.

Environmental and Economic Sustainability

While a lot of social progress has been made in the last four years, MAVOTI has experienced some teething problems but inspiring also some successes. The use of tree trunks and timber for bridges has been noticed to be unsustainable in that the trees are not replaced and do not grow fast enough for replacement of bridge structures as they decay. Besides the trees used (*Sclerocarya caffra* (Marula), Katope (*Syzygium cordatum*), and Mubanga (*Pterocarpus angolensis*) have other more important environmental and nutritional value for the community and also grow slowly. The viable alternative is concrete decks that inevitably require lots of money for cement and reinforcement. MAVOTI cannot depend indefinitely on external funding.

Despite the ease of transport and capital availability for farm inputs for the common person in Elangeni, the rising cost of chemical fertilizer, improved seed and fuel for the truck necessitate that MAVOTI members adjust their loan repayment rates. That adjustment neither favours the farmers with small landholdings nor is it sympathetic to weather failure (too much/too little rain, too soon rains or too late). Risk-averse members – and these are many - decided to avoid the loans and eventually quit MAVOTI. Besides, the cumulative effect of chemical fertilizers on the gardens has been negative. Those who use chemicals cannot grow anything the following year if they do not use fertilizers or any other inputs again. The soil is left worse off than before.

Because food is the primary need, people would want to open more land for agriculture. However, there is little available land these days owing to the growing population. The MAVOTI secretariat is aware of these problems and to live up to their mission statement, they must build their own fund independent of external donors to cover costs such as schools and bridges. They should increase the agricultural yields on the present landholding using viable substitutes to chemical fertilizers and improve seed supplied from outside the community and maintain the current indigenous woodland for uses such as construction, fuelwood supply, herbal medicine and soil and water conservation. These problems also threaten the very continuity of MAVOTI.

In order to build understanding of indigenous knowledge systems relating to agricultural production including the use of organic manure and integrated farming, MAVOTI visited successful indigenous-knowledge based establishments at Tikondwe Freedom Gardens in Dowa District (see other entry on Mr. Chinkhuntha's Tikondwe Freedom Gardens). Members are also consulting local experts such as Mr. Phiri of Chijere in Nkhata-Bay regarding soil conservation and landuse measures. The Traditional Authority, his right-hand men and several village headmen have also visited Tikondwe Freedom Gardens. 14 of the initial 30 MAVOTI members visiting Tikondwe have already made domestic adaptations to organic manuring as initial steps to greater independence from chemical fertilizer use.

Adaptation to the experiences learned from Chinkhuntha's garden in Dowa and Mr. Phiri's conservation practices (see Indigenous Horticultural Academy in the village) of Chijere Nkhata-Bay District would help as background to opening an environmentally sustainable and economically viable model garden in the Popopo valley. Tikondwe Freedom Gardens provided both inspiration and planning insights for MAVOTI members.

The Traditional Authority Mabulabo has given MAVOTI land in the Popopo Valley. Popopo is a valley with abundant alluvial soils and perennial waters that otherwise simply run to the lake. MAVOTI will use it to open horticultural gardens producing organic fruits, vegetables, maize and herbs. Horticulture is probably the best use of Popopo whose microclimate compares to the Limpopo Valley in South Africa and Mazoe in Zimbabwe, renowned producers and international exporters of fresh and canned horticultural products.

While waiting to construct the water reservoirs in Popopo carefully and with the on-site technical advice of Mr. Chinkhuntha, MAVOTI will start small-scale activities on Lusutuzi swamp. This area also has sufficient water. As experience builds up and water reservoirs are finished, they will extend to Popopo area. The District Environmental Officer for Mzimba is one of the experts often called upon to ensure that the Lusutuzi-Popopo stretch remains environmentally resilient even after horticultural production has started.

The project is to be used as a demonstration site for improving crop yields using indigenous knowledge and organic resources (neither chemical fertilizers, nor pesticides will be used), on-farm production and storage. The increase in yields, without the use of chemical fertilizers and pesticide, is in the interest of every MAVOTI member regardless of the land holding size. At the same time, proven organic farming will also obviate the need for clearance of more land.

It is also hoped that the proceeds from the Popopo produce will strengthen the financial base of the organization and its individual members thereby making MAVOTI economically sustainable in the absence of external funding.

Currently, market openings for fruits, vegetables and herbs have been identified at different places in Mzuzu, Mzimba, Kasungu and even in Lilongwe. MAVOTI members have sufficient experience and skills to successfully manage the various business and administrative sectors that will arise from their increased activities. Of particular interest is the fact that the Traditional Authority, Inkosi Mabulabo, is always informed of the developments in MAVOTI and has keen interest in its progress. The development of Elangeni is his pride and the success of MAVOTI, a community-based organization in a class of its own, is his joy.

Visitors

The organization can host a maximum of 30 guests at any one time. Prospective visitors should make prior arrangements through the Managing Director, MAVOTI, P.O. Box 54, Mabulabo, Mzimba, Malawi; or send them a fax through the ARET (Agricultural Research and Extension Trust) Office in Kasungu. ARET frequently visits its farmers in Mabulabo and Kaluluma and can therefore deliver the message

GENERATING BIOGAS ENERGY FROM LIVESTOCK DUNG – MR. BANDA, DOWA WEST RDP

Background

The Banda family lives in Mkomba village, Mndolera Extension Planning Area, Dowa District, which falls in Kasungu Agricultural Division. Like all other smallholder farmers, they started with growing a few hectares of maize initially for subsistence and later added dark-fired tobacco using minimal external inputs. A little exposure to agricultural extension services saw them keeping some cattle and chickens, eyeing Robert Blake and Mponela secondary schools and surrounding townships as markets for their produce. Starting with no employed work experience of any sort, the family perfected every piece of extension advice they received from agricultural staff where necessary to meet their own requirements. Today, their activities have expanded to afford them a five-bedroom house (whose lounge can comfortably sit thirty people); three cars, three maize-mills and a functional biogas plant.

Interdependent Enterprises

The Bandas grow maize, fruits such as bananas, guavas, oranges, pumpkins; they grow burley tobacco and raise dairy and local Zebu cattle, pigs, and around 2000 broiler chickens. They sell their milk to a bulking group and to immediate neighbours. The cattle, pigs, and chickens provide them with dung - the raw materials for the biogas plant. The biogas plant provides them with gas for domestic cooking and lighting saving them pennies that formerly went to paraffin and firewood. After providing gas, the biogas plant also provides fully processed manure that is far better than either inorganic fertilizer or unprocessed manure. With the use of manure, the family grows more maize than those in the neighbourhood who do not apply manure.

The family practices a crop rotation system that involves tobacco, legumes, pastures such as Napier grass and maize. The family sells their maize to neighbouring institutions such as hospitals, prisons, schools and local markets. Around the home, there is a woodlot that provides the family and the local people with firewood and building materials. It also serves as a windbreak. The family creates employment opportunities for casual labour in the neighbourhood while also serving as a model to any interested neighbours. The family always has more maize than it needs and provides food security for the village in the months of January to March when most families run out of maize and other staples.

Complementary Activities

Through the use of manure for crops such as maize and fertilizer for tobacco during rotation, the maize uses residual fertilizer from the previous crop. Slowly, there is a move away from total use of chemical fertilizers. They believe mixed-cropping creates a safety net in case one crop fails. For efficient enterprise management, there is a clear division of labour with the wife managing maize mills, cattle and chickens, and the husband handling the biogas plant, fruits and tobacco and related enterprises. The manure that in the past was forming a mountain is now generating biogas that is proving another alternative to wood energy and paraffin lighting. This is a place where cattle dung saves pennies and all the enterprises are so balanced as to make a continuously self-maintaining farming system. By having sufficient maize to support the village even in the lean months, the Banda family is also assured of adequate labour for their field activities at various times during the cropping and livestock cycles, while offering visible lessons for those who have eyes to see.

COMPASS Publications

Document Number	Title	Author(s)	Date
Document 1	COMPASS Year 1 Work Plan	COMPASS	Jul-99
Document 2	COMPASS Small Grants Management Manual	Umphawi, A., Clausen, R., Watson, A.	Sep-99
Document 3	Year 2 Annual Work Plan	COMPASS	Dec-99
Document 4	July 1-September 30, 1999: Quarterly Report	COMPASS	Oct-99
Document 5	Training Needs Assessment: Responsive Modules & Training Approach	Mwakanema, G.	Nov-99
Document 6	Guidelines and Tools for Community-Based Monitoring	Svendsen, D.	Nov-99
Document 7	Policy Framework for CBNRM in Malawi: A Review of Laws, Policies and Practices	Trick, P.	Dec-99
Document 8	Performance Monitoring for COMPASS and for CBNRM in Malawi	Zador, M.	Feb-00
Document 9	October 1 - December 31, 1999: Quarterly Report	COMPASS	Jan-00
Document 10	Workshop on Principles and Approaches for CBNRM in Malawi: An Assessment of Needs for Effective Implementation of CBNRM	Watson, A.	Mar-00
Document 11	January 1st - March 31st, 2000: Quarterly Report	COMPASS	Apr-00
Document 12	Thandizo la Ndalama za Kasamalidwe ka Zachilengedwe (Small Grants Manual in Chichewa)	Mphaka, P.	Apr-00
Draft 13	Njira Zomwe Gulu Lingatsate Powunikira Limodzi Momwe Ntchito Ikuyendera (Guidelines and Tools for Community-based Monitoring in Chichewa)	Svendsen, D. - Translated by Mphaka, P. and Umphawi, A.	May-00
Draft 14	Grass-roots Advocacy for Policy Reform: The institutional Mechanisms, Sectoral Issues and Key Agenda Items	Lowore, J. and Wilson, J.	Jun-00
Draft 15	CBNRM Campaigns Workshop Report	Sneed, T.	Jul-00
Draft 16	Training Activities for Community-based Monitoring	Svendsen, D.	Jul-00
Internal Report 1	Building GIS Capabilities for the COMPASS Information System	Craven, D.	Nov-99

Internal Report 2	Reference Catalogue	COMPASS	Feb-00
Internal Report 3	Workshop on Strategic Planning for the Wildlife Society of Malawi	Quinlan, K.	Apr-00
Internal Report 4	Directory of CBNRM Organizations	COMPASS	Jun-00
Internal Report 5	Proceedings of Water Hyacinth Workshop for Mthunzi wa Malawi	Kapila, M. (editor)	Jun-00
Internal Report 6	COMPASS Grantee Performance Report	Umphawi, A.	Jun-00
Internal Report 7	Examples of CBNRM Best-Practices in Malawi	Moyo, N. and Epulani, F.	Jul-00